



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,888	08/20/2001	Shinji Iino	213046US2X	4026

22850 7590 03/17/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

PATEL, PARESH H

ART UNIT PAPER NUMBER

2829

DATE MAILED: 03/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/931,888

Applicant(s)

IINO ET AL.

Examiner

Paresh Patel

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of Group I (claims 1-7) in Paper No. 5 is acknowledged.

### *Drawings*

The drawings are objected to because "'a general communication circuit" should read -a general purpose communication circuit (16)- throughout specification. Also "The power source circuit" as explained in the specification is not shown in fig. 2. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to ~~as~~ <sup>along with 50</sup> failing to comply with 37 CFR 1.84(p)(4) because reference character "W" has been used to designate both wafer and tungsten probe. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a) because they fail to show the power source circuit as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are

Art Unit: 2829

required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

**Specification**

The disclosure is objected to because of the following informalities: the power source 13A is part of tester 13 as described on page 17, also the same power source 13A is part of power source circuit as described at lines 10-11 on page 18. It is not clear from the drawing fig. 2 that how one power source 13A is part of two different element.

Also at line 12 of page 18, "it" should read -15- and at line 20 of page 24 "(not)" should read -(not shown)-.

Appropriate correction is required.

**Claim Rejections - 35 USC § 112**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 and 3 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "bringing about a fritting phenomenon" using two probes, does not reasonably provide enablement for an inspection probe (as third probe). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. In the specification the inspection probe is one of the two

Art Unit: 2829

probes used in the fritting phenomenon. In the claim the inspection probe is a third probe.

Claims 2 and 4-7 are rejected because they depend from rejected claim.

For the purpose of Examination Examiner considers that one out of two probes that used for fritting phenomenon is an inspection probe.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 3 rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claim 1 fail(s) to correspond in scope with that which applicant(s) regard as the invention can be found in Paper No. 1 filed 08/20/2001. In that paper, applicant has stated that the inspection probe is used for testing the inspection electrode of the target object after breaking an insulation film using fritting phenomenon which requires two probes (the inspection probe and another probe), and this statement indicates that the invention is different from what is defined in the claim(s) because an inspection probe is a third probe.

Claims 2 and 4-7 are rejected because they depend from rejected claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (US 5936419) and in view of Matsudo (US 6057694).

Regarding claim 1, Chen in fig. 3 discloses: a bringing about a fritting phenomenon [application of high voltage at the sample 8] on an inspection electrode [electrode of sample 8]; bringing an inspection probe [one of the probe used for the high voltage application at the sample 8] into electrical contact with the surface of a part of the inspection electrode [electrode of sample 8]; inspecting the electrical characteristic [lines 1-22 of column 3] of the target object [sample 8] using a tester [10, 20, 30, 40, 50]

Chen inherently discloses breaking an insulation film formed over the inspection electrode because application of high voltage across electrode will create heat and deform the insulation film formed on the inspection electrode. Matsudo discloses removing the insulation film formed on the inspection electrode [lines 47-61 of column 2 and lines 24-29 of column 8] using plasma. Formation of the insulation film on any electrode is well known in the art. Matsudo also discloses that this insulation film has high resistance and needs to be removed before testing the wafer or chip. Therefore, it would have been obvious to a person having ordinary skill in the art that to remove the insulation film (or oxide) using plasma, vapor, shaving with card or heat in order to

achieve good electrical contact (less resistance) between the probe and the inspection electrode of chip or wafer before measuring the electrical characteristic of that device.

Regarding claims 2 and 3-4, Chen discloses: bringing a probe (first probe) [one end of 531] into contact with the inspection electrode (second probe) [electrode of test sample 8]; and applying a voltage [lines 59-67 of column 2] between the probe and the inspection electrode [other end of 531] so as to bring about the fritting phenomenon [inherent to application of voltage].

Regarding claim 6, Chen inherently discloses step of disconnecting the probe [see fig. 2-3] not utilized as an inspection probe.

Regarding claim 7, Chen or Matsudo does not disclose disconnecting (separating) step is performed by utilizing at least one of a piezo element, a bimetal, and an electrostatic element. Rather, Chen inherently discloses step of disconnecting the probe. It would have been obvious to a person having ordinary skill in the art at the time of invention has choice to use hand or any other design, such as mechanical device to disconnect or separate the probe from an electrical contact, in order achieve non-electrical connection between probe and contact during or after the testing.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 703-306-5859. The examiner can normally be reached on M-F (8:30 to 4:30).

Art Unit: 2829

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 703-308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Paresh Patel  
March 7, 2003



**KAMAND CUNEO**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**